Kansas Department of Agriculture
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Plant Disease in Kansas

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HIGHLIGHTS

Wheat disease levels appear low in limited survey of the crop. A few reports of various viral diseases have been noted.

In greenhouses, hosta and geraniums have been reported with disease problems. Arabis mosaic, a highly regulated disease in Europe was identified from plants originating in the Netherlands.

In analysis of plant parasitic nematode populations, plant health in windbreaks negatively correlated with dagger nematode, *Xiphenema* species.

Armillaria root rot and *Hypoxylon* canker were observed in oak woodland sites in March and April.

OUTLOOK

Look for a number of wheat diseases to manifest in the state's crop. Wet cool weather is normally ideal for such diseases as powdery mildew and stripe rust. Barley yellow dwarf virus begins to appear as plants begin to joint.

GREENHOUSES and RETAIL OUTLETS

Hosta virus x was identified in two locations in southeast Kansas in late March. Symptoms included leaf distortion, mosaic, and puckering of leaf tissue. In addition, one cultivar of hosta was found infected with Arabis mosaic virus. The virus is widespread in Europe and tightly regulated. The plants originated from the Netherlands. Arabis mosaic has an extremely large host range affecting many plants commonly grown in Kansas including grapes, roses, and numerous bedding plants. It is highly transmitted by seed and through infected plant material/sap (J. Appel).

Fig. 1. Hosta with hosta virus x and Arabis mosaic virus.

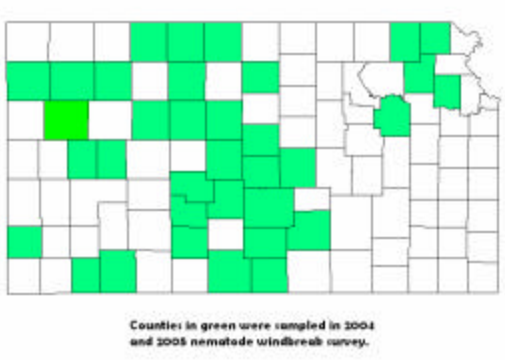
Geraniums have been identified with viral problems. Geraniums were expressing ring spot and mosaic symptoms. These plants were from a greenhouse in central Kansas. They tested positive for tobacco ring spot and Pelargonium flower break virus. We have collected also several samples of suspected viral problems and awaiting results of laboratory testing.

Fig. 2. Geranium with tobacco ring spot and Pelargonium flower break.

All viral infected plants are regulated under Kansas Plant Health regulations.

WINDBREAKS

Fig. 3. Counties sampled in the survey.



In analysis of two years of soil sampling data for plant parasitic nematodes in windbreaks, a significant negative correlation was found between the dagger nematode and plant health ratings (T. Todd, KSU and J. Appel). The samples (109) were collected from windbreaks across the eastern two thirds of Kansas. Tree species associated with the study included eastern red cedar, Austrian pine, hackberry, green ash, Siberian elm, and Russian olive. The nematode genus seemed to have the highest populations on hackberry and pine. Ash also was likely affected but because of limited observations and ash yellows infection, the data was close but not significant. In the literature, dagger nematodes have a fairly wide host range and documented to be a significant health problem to plants in stable environments such as woodlands and windbreaks.

Other interesting trends were a statistical difference in presence of lesion (*Pratelynchus*) nematodes in northern counties as opposed to central and southern counties and high ring (*Criconemella*) nematode populations on hackberry. Ring nematodes are not strongly pathogenic but have been associated with disorders such as peach tree short life disease.

A third year of study will be conducted in 2006.

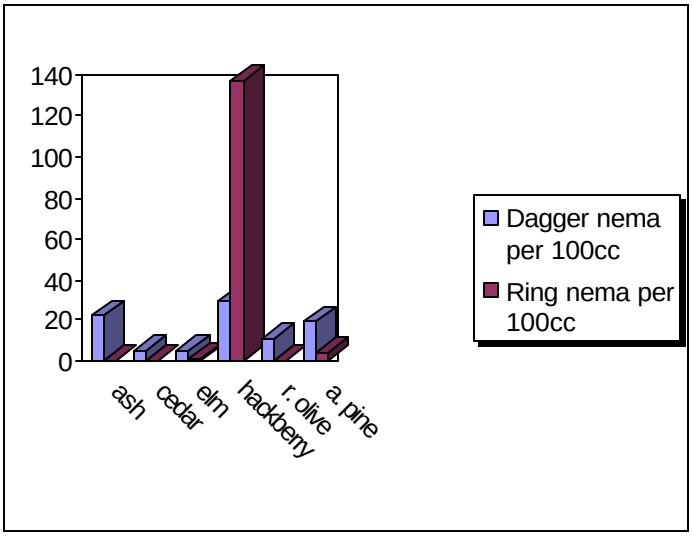


Fig. 4. Average nematode populations (100cc of soil) of dagger and ring nematodes in Kansas windbreak study.

In other observations, pine wilt disease was found in a Scots pine windbreak row near Minneapolis in Ottawa County. It was a county record.